

IN THE SPECIFICATION

Please replace the paragraph beginning on page 6, line 11, with the following rewritten paragraph:

--The DNS server appliance 10 is adapted for use in Internet Protocol (IP) based computer networks, such as the Internet and intranet applications employing IP to convey data from one networked device to another networked device. The computer network 16 including a plurality of hosts 18, a plurality of clients 20 and the DNS server appliance 10 is shown. Each host 18 is identifiable by at least one domain name 22 and a unique IP address 24. For example, the host computer 18 may be identified by its domain name "www.support.infoblox.com" 26 or by its IP address as "192.168.10.100[.]" 28. --

Please replace the paragraph beginning on page 7, line 23, with the following rewritten paragraph:

--In an alternative embodiment, multiple disks may be used to provide redundancy and increase system reliability. In another embodiment, a wireless access port, such as an infrared port, may be added to the system or may be substituted for the serial interface 40. Such a port would enable ~~would permit~~ an administrator to assign an IP address 24 to the DNS server with the use of a personal assistant device, such as a Palm Pilot. While the preferred embodiment of the DNS server appliance 10 includes the disclosed hardware configuration, alternative configurations of hardware adapted to optimize DNS server appliance performance and provide limited access to DNS server appliance software are considered to be within the scope of the invention. --

Please replace the paragraph beginning on page 9, line 26, with the following rewritten paragraph:

--Referring now to FIG. 4, DNS uses a logical hierarchical structure 60 consisting of zones and sub-zones to facilitate the organization of domain names within the DNS system.

Such a structure is comparable to an inverted tree with the root "dot" 62 at top of the hierarchy. The root "dot" 62 branches down to the top level of zones 64. Examples of top level zones 64 include ".com," ".edu," ".org," ".net," ".gov," and ".mil," as well as abbreviations for numerous countries. Each top level zone 64 may branch further into a number of sub-zones or second level zones 66. For example the top level zone ".com" may include a number of second level sub-zones such as "infoblox.com" and "yahoo.com." The second level sub-zones 66 may branch into further third level sub-zones 68. For example, the second level sub-zone "infoblox.com" includes further third level sub-zones "support.infoblox.com" and "sales.infoblox.com." The lowest level sub-zone 70 includes one or more hosts 18. For example, the sub-zone "support.infoblox.com" includes three hosts: "www.support.infoblox.com," "mail.support.infoblox.com" and "server.support.infoblox.com." The sub-zone "sales.infoblox.com" includes a single host, "mail.sales.infoblox.com." FIG. 4 is merely illustrative of [[an]]a example of an hierarchy within the DNS system. Different DNS hierarchies may include a greater or fewer number of sub-zones. In addition, it is possible for a member of a sub-zone to be linked to more than one upper level zones. --

Please replace the paragraph beginning on page 10, line 15, with the following rewritten paragraph:

Referring now to FIG. 5, a block diagram representation of an example of a network configuration 72 is shown, where a client 20 sends a data packet to a host 18 having an IP address "192.168.10.100." IP addresses 24 for hosts 18 generally consist of four numbers separated by periods, such as for example 192.168.10.100. When a client 20 sends data packets to a given host 18, the IP address designates the route that the data packets must take to reach the host associated with the IP address 24. The route consists of a number of sub-networks within the computer network 16. Each sub-network is associated with a router. Routers are responsible for interpreting IP addresses 24 and channeling appropriate packets into appropriate sub-networks. The client 20 routes the data packet with the IP address 24 to the routers. The router recognizing "192.000.00.000" recognizing "192.000.00.000" as the designation 74 for its associated sub-network accepts and routes the data packet to additional routers associated with further sub-networks. The router recognizing "192.168.00.000" as the designation 76 for its associated sub network accepts and further routes the data packet to routers

associated with further sub networks. The router recognizing "192.168.10.000" 78 as the designation for its associated sub network accepts the data packet and routes the data packet to the hosts 18 within the sub network. The host 80 having the IP address of "192.168.10.100" accepts the data packet.--

Please replace the paragraph beginning on page 11, line 3, with the following rewritten paragraph:

--As shown in FIG. 6, the hierarchical zone information associated with domain names 22 and the sub-network designations are used [[to]] by the DNS server appliance 10 to store domain name data and IP address data in the object oriented database 56. The DNS server appliance 10 stores the hierarchical zone information as zone objects 82, network designations as network objects 84 and the host data as host objects 86. For example, the zone "com" is represented in the objected oriented database as a zone object 88 having an attribute "com". Similarly, the zone "infoblox.com" is represented as a zone object 90 having an attribute "infoblox" and an association to the zone object 88 having the attribute "com". The zone "support.infoblox.com" is represented as zone object 92 having the attribute "support" and the zone "sales.infoblox.com" is represented as zone object 94 respectively, with each zone object having an association to the zone object 90 having the attribute "infoblox".--

Please replace the paragraph beginning on page 12, line 9, with the following rewritten paragraph:

--The DNS server 44 first identifies the top level zone 64 in the domain name "www.support.infoblox.com[[.]]" as "eom." "com". The DNS server 44 uses this information to access the object oriented database 56 and retrieve the zone object 88 having the attribute "com". The DNS server 44 then identifies the next sub-zone 66 in the hierarchy as "infoblox.com." The DNS server 44 then accesses the object oriented database 56 and retrieves the zone object 90 having the attribute "infoblox" and an association to the zone object 88 having the attribute "com". The DNS server 44 then identifies the next sub-zone 68 in the hierarchy as "support.infoblox.com." The DNS server 44 uses this information to access the object oriented database 56 and retrieves the zone object 92 having the attribute "support" and an association to the zone object 90 having the attribute "infoblox".--

Please replace the paragraph beginning on page 13, line 14, with the following rewritten paragraph:

--Referring now to FIG. 7, networks are often reconfigured resulting in changes to the IP address 24 associated with a host 18. This requires that the DNS server appliance 10 be updated to reflect the new IP address 24 so that data packets addressed to affected hosts 18 are rerouted appropriately through other available sub-networks. Suppose for example, that the sub-network 106 designated as "192.168.10.000" was removed from the computer network 16. The DNS server appliance 10 would have to be updated with a new IP addresses 24 for the host 108 "www.support.infoblox.com," the host 110 "mail.support.infoblox.com" and the host 112 "server.support.infoblox.com." To update the DNS server appliance 10, the affected hosts 108, 110, 112 are first unlinked from the unavailable sub-network 106. This is achieved by first removing the network object 106 having the attribute "10" from the object oriented database 56. The deletion of the network object 106 automatically removes the associations between the affected host objects 108, 110, 112 and the network object 106. Next the affected hosts 108, ~~110, 112~~ 110, 112 must be relinked to the available sub-network "192.168.10.000." Associations between the network object 116 having the attribute "20" and the affected host objects 108, 110, 112 are created. The DNS server appliance 10 automatically updates the IP addresses 24 for the hosts "www.support.infoblox.com," "mail.support.infoblox.com" and "server.support.infoblox.com" to "192.168.20.100," "192.168.20.101" and "192.168.20.102," respectively. Storing the sub-network designations as objects facilitates the reassignment of hosts to different sub networks by minimizing the number of modifications an administrator is required to make to implement a successful reassignment. --

Please replace the paragraph beginning on page 14, line 7, with the following rewritten paragraph:

--Referring now to FIG. 8, the administrator makes configuration changes to the object oriented database 56 via the GUI 58, an example of which is shown. The GUI 58 includes an upper header section 200 including a plurality of icons with a text label below each icon. Upon clicking on an icon, a dialogue box is provided requesting the data necessary to implement the configuration operation associated with that icon. Selecting the first icon 202 enables the

administrator to add network objects to the object oriented database 56. The second icon 204 provides a mechanism for adding zone object. Similarly, clicking on the third icon 206 provides for the addition of a network object. Clicking on the fourth icon 208 permits the user to add additional domain names associated for IP addresses already present in the database. Clicking on the fifth 210 and sixth 212 icons permits the administrator to modify [[and]] an existing object and remove objects, respectively, from the object oriented database. The remainder of the GUI is divided into a first section 214 and a second section 216. The first section 214 displays network and zone information in a tree format. The second section 216 displays a listing of hosts associated with user selected zones or networks.--